



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,702	01/15/2004	Earl D. Webb	HES 2000-IP-001080UID3	8084
28857	7590	08/23/2005	EXAMINER	
CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440			BOMAR, THOMAS S	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,702

Applicant(s)

WEBB ET AL.

Examiner

Shane Bomar

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7, 9-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 3, 6, 8 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2, 4, 5, 7, 9-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4,907,649 to Bode.

Regarding claim 1, Bode discloses an apparatus comprising: an outer housing 20 or 100; an inner sleeve 44 or 107 disposed in the outer housing, the inner sleeve having open upper and lower ends, wherein an inner surface 47 or 67 of the inner sleeve curves radially inwardly from the upper end of the inner sleeve, so that the inner sleeve will inherently cause an interference fit with the cementing plug 50 or 72 when the cementing plug is received therein, the interference fit being inherently sufficient to prevent or limit rotation of the plug during drillout (see Figs. 2-5, col. 3, line 36 through col. 4, line 18, and col. 4, line 19 through col. 5, line 28). When a cementing plug reaches the restriction provided by inner surface 47 or 67, the plug would inherently offer some resistance to rotation of the plug caused by drilling due to the different materials in the plug and the sleeve, thereby limiting rotation of the plug.

Regarding claim 2, the sleeve defines an innermost diameter 52 between the upper and lower ends, wherein the inner surface of the inner sleeve diverges radially outwardly in both upward and downward directions from the innermost diameter 52 (see Figs. 2 and 3).

Regarding claim 4, the inner sleeve is adapted to receive at least two cementing plugs, wherein the inner sleeve will inherently frictionally engage both of the cementing plugs to limit rotation of the cementing plugs during drillout thereof (see col. 5, lines 21-28 and col. 6, lines

Art Unit: 3672

19-21 wherein it can also be seen from Fig. 5 that sleeves 106 and 107 could be considered to be one sleeve when holding two plugs).

Regarding claim 5, the inner sleeve 44 or 107 has multiple curvatures 47-49 or 67-68 on the inner surface thereof (see Figs. 2-5).

Regarding claims 7 and 12, Bode discloses an apparatus comprising: an outer housing 20 or 100 for connecting in a casing string 14; an inner sleeve 44 or 107 affixed to the outer housing, the inner sleeve having multiple curvatures 47-49 or 67-68 on an inner surface thereof, wherein each curvature extends radially inwardly to define a diameter having a magnitude less than a maximum diameter of the inner surface, and wherein the plug will be engaged by the inner surface at the innermost diameters defined by the curvatures, the engagement between the inner sleeve and the plug being inherently sufficient to limit rotation during drillout (see Figs. 2-5). When a cementing plug reaches the restriction provided by inner surface 47 or 67, the plug would inherently offer some resistance to rotation of the plug caused by drilling due to the different materials in the plug and the sleeve, thereby limiting rotation of the plug.

Regarding claims 9-11, and 15, the inner surface diverges radially outwardly from an innermost diameter upwardly and downwardly, curves radially inwardly from both the upper and lower ends, and diverges radially outwardly from an innermost diameter upwardly and downwardly (see Figs. 2 and 3).

Regarding claim 13, the inner sleeve is adapted to receive at least two cementing plugs (see col. 5, lines 21-28 and col. 6, lines 19-21 wherein it can also be seen from Fig. 5 that sleeves 106 and 107 could be considered to be one sleeve when holding two plugs).

Allowable Subject Matter

3. Claims 16 and 17 are allowed.
4. Claims 3, 6, 8, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 8/4/2005 have been fully considered but they are not persuasive. The arguments state that the purpose of the restrictions in Bode is to cause an increase in pump pressure for purposes of locating the dart in the string. While this is true, it is still believed that while the plug is located within these restrictions, there is obviously still an interference fit engagement involved, else the plug would simply flow right through the restrictions and would not be able to be located. Regarding this assertion, the term "interference fit" is also seen as a broad term, or concept, in that the amount of interference is largely dependent on the size of the plug and/or the restrictions. Therefore, a large plug placed into the string of Bode would encounter a larger amount of interference when engaging the restrictions. Then, if the plug were to become stuck after engaging a particular set of restrictions, the inherent interference fit between the plug and the restrictions would have to limit the rotation of the plug during drillout to a certain degree. It is noted that the arguments go on to state that a drill would push the plug through the restrictions. While this is obviously possible, it is still dependent on the size of the plug and/or restrictions, and the plug would not pass through the restrictions before limiting the rotation of the plug to some extent due to the aforementioned inherent interference fit.

It is further argued that the Bode restrictions are not used to prevent downward movement of the plug. This argument is more limiting than the claims themselves because this limitation cannot be found in any of the currently presented claims. It is clear to the Examiner that the claims are currently directed only to the portion of Figure 12 that is directly above the lower threaded connection, which corresponds to the portion of Bode's Figure 2 that is directly above the lower threaded connection 36. While it appears that element 169 of Figure 12 in the instant invention is the element that would prevent the downward movement of the plug during a drillout process, this limitation is not found in any of the current claims.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 571-272-7026. The examiner can normally be reached on Monday - Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David J. Bagnell
Supervisory Patent Examiner
Art Unit 3672

tsb 
August 19, 2005